2007–2008

Saskatchewan

Provincial Budget

Performance Plan

Saskatchewan Watershed Authority

Minister's Message

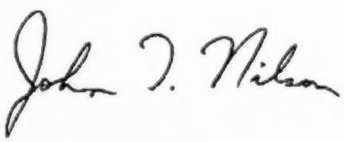
I am pleased to present the Saskatchewan Watershed Authority's Performance Plan for the fiscal year 2007-08. I am committed to completing the key actions identified in our 2007-08 Performance Plan, and reporting on the Watershed Authority's progress to the people of Saskatchewan.

Over the past four years, we have made significant progress towards achieving strategic goals to protect and manage source water in order to ensure a safe, sustainable water supply for Saskatchewan people.

In response to public consultations, the Watershed Authority will lead development of an Integrated Water Management Framework, develop a new Water Allocation policy and develop recommendations to renew the legislative framework for water management. The Watershed Authority will continue implementation of the Water Conservation Plan, and will initiate implementation of the new wetland and drainage policy.

The Watershed Authority will continue to work with a broad partnership of citizen committees on the development and implementation of Watershed Protection Plans. By combining sound science with community involvement, these plans will ensure a safe, accessible water supply. Implementation of completed plans will be very important this year, but the Watershed Authority also plans to move forward with new watershed planning initiatives.

The Watershed Authority's ongoing work to maintain and rehabilitate infrastructure, manage surface and groundwater, and promote best management practices of the land base is crucial to protecting Saskatchewan's water supply, and providing good stewardship of the resource now and in the future.



John T. Nilson, Q.C.
Minister Responsible for
Saskatchewan Watershed Authority

Who We Are

The Saskatchewan Watershed Authority was established in October 2002 as part of the Safe Drinking Water Strategy with a mandate to protect and manage Saskatchewan's water supplies. This mandate makes the Saskatchewan Watershed Authority responsible for:

- sustainable allocation of ground and surface water;
- inventory, analysis and monitoring of water resources;
- flood forecasting; and
- administration and control of water infrastructure, including such major structures as Gardiner Dam.

The Watershed Authority's mandate recognizes that good source water is a product of a healthy ecosystem. The Watershed Authority:

- leads watershed and aquifer planning;
- develops partnerships and projects that help provide healthy watersheds;
- provides assessment and monitoring practices that ensure the protection and restoration of the province's water sources; and
- co-ordinates the North American Waterfowl Management Plan in Saskatchewan.

The Watershed Authority works within the framework of Saskatchewan's Safe Drinking Water Strategy. The Performance Plan for the Safe Drinking Water Strategy is available at http://www.se.gov.sk.ca/environment/protection/water/drinking.asp.

The Watershed Authority currently has 195 employees (192 full-time equivalents). The Watershed Authority's head office is located in Moose Jaw, but many services and programs are delivered through its regional offices in Nipawin, Swift Current, Weyburn, North Battleford and Yorkton, and other offices located in Prince Albert, Regina and Saskatoon. You are encouraged to learn more about the Watershed Authority and its programs by visiting the Watershed Authority's website (www.swa.ca).

The Watershed Authority's work is focused on three main areas:

PROTECTING WATERSHEDS

Watershed and aquifer planning is an important technique to help protect source water. One aquifer and three watershed protection plans are complete and two more plans will be completed by the end of the 2007-08 fiscal year. While continuing planning, the Watershed Authority is now also focusing on plan implementation. The Watershed Authority's stewardship

and extension programs assist landowners to improve watershed health through various beneficial management practices including restoration of riparian areas, planting cover, and wetland protection.

As assessing the health of watersheds is an essential aspect of source water protection, the Watershed Authority works with Saskatchewan Environment to monitor water quality. The Watershed Authority published its Framework for the State of Watersheds Report in 2006. Public support and participation is essential to the protection of source water. The Watershed Authority, therefore, works with partners in the Safe Drinking Water Strategy to deliver education and information programs to create awareness and understanding of water and watershed issues.

MANAGING WATER SUPPLIES

The Watershed Authority provides hydrology expertise to determine surface water supplies, guide allocations, forecast floods and direct operation of water control structures such as dams. Water levels and flows are monitored by the Watershed Authority at more than 200 sites in the province. All major water allocations, including municipal, industrial, irrigation, and intensive livestock, as well as some domestic uses, must be approved by the Watershed Authority. The Watershed Authority also represents Saskatchewan on trans-boundary water issues.

Much of Saskatchewan depends on groundwater. To protect this resource, the Watershed Authority licenses all but domestic users to ensure water uses are sustainable and new development does not impact existing users. The Watershed Authority also conducts research to determine groundwater supplies and provides information to citizens and industry to help locate groundwater sources. A network of wells is monitored to determine trends in groundwater levels.

The Watershed Authority handles formal and informal complaints about drainage causing damage and may rule and enforce remedies, such as ditch blocks.

SASKATCHEWAN'S WATER MANAGEMENT INFRASTRUCTURE

To manage surface water supplies, the Watershed Authority maintains and operates provincial water management infrastructure, including 45 dams and 130 kilometres of conveyance channels plus ancillary works. These include Gardiner, Qu'Appelle, Rafferty and Alameda dams. The Watershed Authority invests significantly each year in maintenance, rehabilitation and upgrading of this infrastructure.

The Watershed Authority provides financial support to Conservation and Development Area Authorities and municipalities to assist with maintenance and rehabilitation of locally owned infrastructure.

Plan at a Glance

The Saskatchewan Watershed Authority was created in October 2002. This fourth publicly released Performance Plan builds on the progress achieved through the 2006-07 plan. The goals and objectives stated are long-term in nature, which the Watershed Authority will work toward over a number of years. The Plan also states the key actions the Watershed Authority will undertake in 2007-08 to further its objectives and will report on in its 2007-08 Annual Report. A good plan must evolve as circumstances change. The Watershed Authority will review its goals and objectives annually, develop new key actions and work to develop a more complete set of performance measures.

VISION

Excellence in watershed management promoting safe, sustainable water supplies in healthy ecosystems.

GOAL 1

Safe and sustainable water supply

***OBJECTIVE 1** – Water management infrastructure is safe and meets operational requirements*

Performance Measures

- Risk ratio for the Province's water management infrastructure
- Number of dams requiring significant upgrades to meet dam safety guidelines

***OBJECTIVE 2** – Water supply is reliable*

Performance Measures

- Proportion of surface water industrial projects with detailed assessments completed that comply with licensing and approval requirements
- Number of 1:250,000 map sheets for which GIS-based digital groundwater maps have been completed
- Municipal per capita water consumption
- Winter municipal per capita water consumption

OBJECTIVE 3 – *Flood damage is minimized*

Performance Measures

- Number of flood plain development audits for communities involved in the Flood Plain Damage Reduction Program
- Per cent of flood susceptibility studies on new subdivisions forwarded to Government Relations within 30 days

GOAL 2

Healthy watersheds and aquifers

OBJECTIVE 1 – *Source waters and watersheds are protected*

Performance Measures

- Number of completed watershed and aquifer plans
- Proportion of watershed and aquifer plan key actions underway or completed by the Watershed Implementation Committees
- Water Quality Index ratings for lakes
- Water Quality Index ratings for rivers

OBJECTIVE 2 – *Public is aware of the importance of healthy watersheds*

Performance Measure

- Number of teachers attending Project WILD and Project WET workshops

2007-08 Financial Overview

The Saskatchewan Watershed Authority's revenues include grants from the Government of Saskatchewan's General Revenue Fund and Fish and Wildlife Development Fund as well as other revenues comprised of various charges on water use. In 2007-08, the Watershed Authority will receive General Revenue Fund monies as a grant through Saskatchewan Environment of $7.184 million for the following purposes:

	(in thousands of dollars)
Operations	$ 1,211
Water Control	796
Water Infrastructure Rehabilitation	3,178
Water Quality	1,999

A breakdown of the Watershed Authority's 2007-08 budgeted revenues and expenditures by major area is provided below.

REVENUE	*(in thousands of dollars)*
Government of Saskatchewan	
General Revenue Fund	$ 7,184
Fish and Wildlife Development Fund	503
Water Revenue	13,772
Contract Revenue	250
Other	2,110
Total	$ 23,819

EXPENDITURES	*(in thousands of dollars)*
Corporate Services	$ 5,647
Regional Services	4,238
Infrastructure Management	2,428
Water Conservation Plan Implementation	200
Green Strategy Initiatives	832
Watershed Planning	1,664
Watershed Monitoring and Assessment	1,866
Stewardship Projects and Administration	2,247
Interjurisdictional Water Management and Administration	1,088
Groundwater Management	891
Hydrology Services	1,386
Interest	68
Depreciation Expense	3,650
Total	$ 26,205
Surplus (Deficit) for the Year	$ (2,386)
FTE Staff Complement	192

The Watershed Authority, due to a combination of higher than anticipated revenues and some program under-expenditures, has accumulated a surplus over the past number of years. For 2007-08, the Watershed Authority has received Treasury Board approval to use some of that surplus for one-time program needs. Program expenditures for some components of watershed plan implementation and watershed planning activities, interim operating agreements with First Nations along the Qu'Appelle Valley, and Green Strategy water-related initiatives are included in the budgeted deficit ($1.473 million). In accordance with the Public Sector Accounting Board's standards, the Watershed Authority capitalizes its assets such as dams, and depreciates them over time. This depreciation is recorded as an expense on its statement of revenue and expenditures. For 2007-08, the Watershed Authority has budgeted infrastructure capital expenditures of $2.662 million and infrastructure related depreciation of $3.25 million. The net impact of the difference between these figures on the budgeted surplus (deficit) is an increased expense of $0.588 million.

Trends and Issues

The Watershed Authority used a risk assessment approach to examine the broad issues it faces in fulfilling its mandate. The following discussion of trends and issues is primarily based on that risk assessment. Risks change over time and the Watershed Authority will continue to assess its risks, in consultation with internal and external partners.

It is important to note that the risk assessment looks at residual risk, which is a measure of the risk remaining after consideration of the steps already taken to manage that risk. The risk assessment considers both the likelihood of the risk happening and the impact of its occurrence.

VARIABILITY OF WATER SUPPLIES

Saskatchewan's water supply has significant variation from years of significant flood risk, as observed in 2005, to periods of drought. Climate change may increase the risk of experiencing both extremes; however, the long-term effect of climate change on water supply is not clearly understood.

A major drought creates real water supply pressures, especially in some rural areas. In a March 2005 poll (Saskatchewan Environment – Environmental Issues – Public Opinion Survey), 47 per cent of respondents identified drought as a significant environmental issue. Concern about drought is significantly higher in rural areas.

Water demand is expected to continue to increase due to growth in several sectors, including oil and gas, mining, irrigation and livestock production and industries such as food processing. Reliable water supplies are essential for this economic development as well as for the well-being of the citizens.

The Watershed Authority budget includes fees for water use including water power rental charges, which are royalties imposed by the Province on hydro-electric producers (SaskPower). This revenue stream constitutes approximately one-half of the Watershed Authority's total annual revenues. This revenue stream is variable with weather conditions; revenue shortfalls can be expected in dry years and surpluses in wet years. Of a total water power revenue budget of approximately $12 million, fluctuations of up to $3 million could occur in any given year. The Watershed Authority budgets for an average water flow year and, to allow program stability, plans to retain surplus revenue in high water years to cover shortfalls in low flow years.

SOURCE WATER PROTECTION

Risks of failing to protect source water may be most critical for private wells and small communities. There are numerous small communities with high risk groundwater and surface water sources. Some small communities are under Public Drinking Water Advisories causing stress to residents and economic hardships.

There are a number of small communities within the Province that have wells and infiltration galleries under the direct influence of surface water or precipitation events. These are source water systems where the risk is high that microbial pathogens will travel from nearby surface water to the groundwater sources.

Other communities of concern are those which rely on private wells into shallow aquifers for water supply. These aquifers are often vulnerable to contamination, and people using the water often do not test its quality regularly. In addition, the concentration of residences greatly increases the risk of contamination. Provincially, 70 per cent of shallow groundwater wells exceed health-related Maximum Acceptable Concentrations of contaminants such as heavy metals, and nitrates. There is not a clear regulatory responsibility for water in these cases because the systems are private.

IMPLEMENTATION OF WATERSHED PLANS

The Watershed Authority initiated watershed planning as a step in implementing the Safe Drinking Water Strategy shortly after its creation. Completed watershed plans are a statement by local communities of steps they want taken to protect their water and provide opportunity and support for government to move forward on source water protection. Completion of the first watershed plans has therefore created an excellent opportunity for significant progress in protecting water supplies. However, achieving this opportunity will be a challenge for the Watershed Authority and its local and provincial partners.

INTEGRATED WATER MANAGEMENT FRAMEWORK

The Watershed Authority is working with federal and provincial agencies to develop an Integrated Water Management Framework which will be the guiding document for provincial water management and will include the work currently being done inside the Safe Drinking Water Strategy. We expect this to lead to a high level of co-operation and best use of resources as the two senior governments work co-operatively to ensure safe and sustainable water supplies. The framework will include both a policy component and a governance model to ensure effective implementation of the framework.

WATER CONSERVATION

The Watershed Authority has developed a water conservation plan. This provides an opportunity to significantly reduce the demand for water. However, society changes slowly and success in water conservation will require a determined effort for several years if the desired benefits of reduced water consumption, reduced energy use and reduced costs for municipal infrastructure are to be achieved.

WETLAND CONSERVATION AND DRAINAGE MANAGEMENT

Public support for wetland protection is strong, but, especially among landowners, there is also a very strong interest in protecting the landowner's right to manage his or her own land. Drainage can often impact downstream landowners and streams. The Watershed Authority has developed a draft wetland and drainage policy to provide guidance on these often difficult areas. The policy provides clear expectations and direction to prevent negative downstream impacts of drainage while reducing the regulatory burden. The policy also targets increased efforts at wetland retention. While new policy direction will assist, this will continue to be a challenging work area and client groups will have heightened expectations because of the new policy.

MAINTENANCE OF INFRASTRUCTURE

The Watershed Authority owns, operates and maintains 45 water storage and control facilities as well as conveyance works on the Qu'Appelle and Souris Rivers. Among these are such major structures as the Gardiner and Qu'Appelle Dams on the South Saskatchewan River, the Rafferty and Alameda Dams in the Souris River basin, control structures on the Qu'Appelle River system as well as other smaller water supply and recreation projects throughout Saskatchewan. The current replacement value of the works owned by the Watershed Authority is about $1.37 billion. Maintenance and rehabilitation costs for these works will continue to use significant resources.

Failure of structures not only affects water supply, but creates risks to property and life. In the case of the four high consequence structures, the damage in the event of a major failure would be large. The Watershed Authority does a good job of maintaining its four large structures, but is less successful in doing adequate maintenance on the 41 smaller structures.

FIRST NATIONS EXPECTATIONS

Water management can affect Treaty Rights such as the right to fish. In order to avoid unintentional impacts on Treaty Rights, the Watershed Authority will use its Community Involvement Policy and the new provincial guidelines on the "Duty to Consult." This is an evolving area which will require new expertise and will take resources, primarily staff time, to implement.

As the Province's water manager, the Watershed Authority must ensure it meets provincial obligations towards the First Nations and that it actively contributes toward provincial goals of reconciliation. At the same time, the Watershed Authority must ensure that various initiatives to accommodate First Nations' aspirations do not compromise the province's ability to manage water supplies.

MEETING REGULATORY OBLIGATIONS

The Watershed Authority has regulatory authority in a number of areas, including allocation and use of water, drainage, and construction of dams and channels. The regulatory system suffers from some non-compliance issues and backlogs in approvals in areas like water allocation.

Examples have included commercial operations, which have been using water for several years, coming to demand a water allocation to legitimize their water supply. The drainage regulations are actively enforced primarily in response to complaints. These aspects of the regulatory system can undermine confidence and can threaten the ability to ensure a safe and sustainable water supply.

Changes from 2006-07 Performance Plan

The goals and objectives included in the Watershed Authority's 2007-08 Performance Plan are unchanged from 2005-06 and 2006-07. The following changes have been made to the performance measures:

- Three new performance measures have been added to the plan: "Per cent of key actions implemented for completed watershed and aquifer plans," "Winter municipal per capita water consumption," and "Number of flood plain development audits for communities in the Flood Plain Damage Reduction Program."
- One performance measure, "Number of urban municipalities adopting acceptable flood hazard zoning by-laws," has been deleted as it was found to inadequately measure performance.
- And finally, one performance measure has been altered to "Proportion of surface water industrial projects with detailed assessments completed that comply with licensing and approval requirements." The previous wording was "Number of detailed assessments on water allocations for industrial projects."

Collectively, these changes will accommodate developing priorities of the Watershed Authority, increase the reader's ability to assess performance results and allow for greater influence by the Watershed Authority over progress. The Watershed Authority will continue to develop a suite of performance measures which allows the reader to effectively assess performance.

Goals, Objectives, Actions and Measures

This section provides the detailed 2007-08 Performance Plan for the Watershed Authority. Under each goal, a number of objectives have been established that support progress towards the broader goal statement. For each objective, a set of key actions, the means for making progress toward the objectives, has been identified which the Watershed Authority is committed to completing in 2007-08. Performance measures have been established for each objective, with others under development, to gauge progress towards meeting the objective.

GOAL 1

Safe and sustainable water supply

***OBJECTIVE 1** – Water management infrastructure is safe and meets operational requirements*

The Watershed Authority operates and maintains 45 water control structures and 130 km of conveyance channels for the Province. These works are an essential part of the Province's water management infrastructure. They control the flow of water to improve water quality, ensure adequate supply, reduce the likelihood of flood damage, enhance recreational opportunities and maintain aquatic habitat. Four of the dams, Gardiner, Qu'Appelle River, Rafferty and Alameda, would have major consequences from downstream flooding, including property damage and likelihood of loss of life, if they failed. Like all capital assets, these works depreciate and require a continuous investment in maintenance and rehabilitation to ensure their safety and ability to operate to meet the Province's needs.

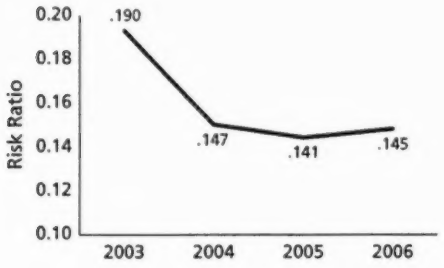
Key Actions for 2007-08

- Rehabilitate infrastructure to ensure it is safe and fully operational.
  - ~ Complete the rehabilitation of the Lac La Ronge Control Structure.
  - ~ Replace or line corroded riparian outlet pipe at Theodore Dam.
  - ~ Undertake pump station upgrading at the Pike Lake Project.
- Complete a dam break analysis of the Qu'Appelle River Dam.
- Conduct comprehensive dam safety investigations at Broderick North, Broderick West, Esterhazy, Star City, Spruce River and Lac La Ronge Dams and commission an independent dam safety review of Rafferty Dam.

What are we measuring?

Risk ratio for the Province's water management infrastructure

Progress to date



The Watershed Authority uses a ratio of the aggregated assessed risk to the total possible risk to establish targets and to measure progress in reducing risk associated with its infrastructure. Risk, defined as the likelihood of a failure multiplied by the consequences of a failure, has been assessed in relative values. Numerically, the risk ratio can be expressed as:

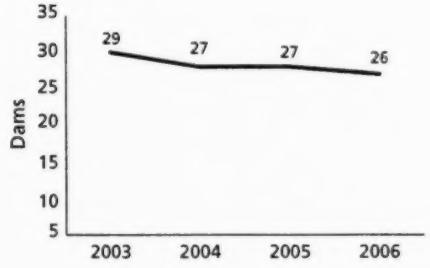
$$\text{Risk Ratio} = \frac{\sum \text{Assessed Current Risk}}{\sum \text{Total Possible Risk}}$$

This measure gauges the Watershed Authority's progress in upgrading its infrastructure to acceptable standards and quantifies the overall risk of the water management infrastructure. A lower ratio indicates safer infrastructure, with a ratio of zero indicating no current assessed risk. As the Watershed Authority owns the structures, its influence on this measure is high, but upgrades to reduce risk require significant investments and will therefore be made over a number of years.

What are we measuring?

Number of dams requiring significant upgrades to meet dam safety standards

Progress to date



The Watershed Authority, like all provincial governments and major utilities across Canada, manages its works generally in accordance with the Dam Safety Guidelines prepared by the Canadian Dam Association. This measure quantifies the number of provincial dams which require upgrades to meet recognized dam safety criteria.

OBJECTIVE 2 – Water supply is reliable

The Province has a long history of allocating supplies for domestic, municipal, industrial, irrigation and other purposes that remove water from the source water bodies. A prime objective in controlling water use is to ensure needs are met and a new user does not take water already depended on by another person or business. Instream use of water is also important to the health of aquatic ecosystems.

Operation of provincial projects, such as the Watershed Authority's major dams and SaskPower's hydro operations, requires careful planning to achieve project objectives and minimize negative impacts on other uses of the resource. Reliable and extensive data are essential to the forecasting required for operation planning.

There is a consensus among most climatologists that the earth's temperature is rising, leading to effects on other meteorological elements such as rain and snow, wind and the frequency of severe storms. These changes will impact on the Province's water supply.

Because any long-term changes in water supply occur slowly, good performance measures are a challenge. The current performance measures examine aspects of the work needed to manage water. The Watershed Authority will continue to examine options for additional performance measures related to reliability of water supply.

Key Actions for 2007-08

- Lead implementation of the Water Conservation Plan, including implementation of a grant program to assist municipalities and other partners with water conservation initiatives.
- Participate in negotiations with the federal government and Qu'Appelle Valley First Nations to reach final agreements in the flood claims related to Prairie Farm Rehabilitation Association (PFRA) control structures.
- Lead negotiations with Qu'Appelle Valley First Nations for co-management agreements, required as a condition for settling flood claims.
- Review and revise operating plans for an additional five of the 45 major Watershed Authority owned structures, including public consultation.
- Improve the provincial hydrometric data utility by ensuring that 15 per cent of the stations have data which is current and develop a schedule for completing the other 85 per cent of the stations to ensure the data is current.
- Improve the legislative and policy framework for water management by completing the Integrated Water Management Framework, revising allocation policies and developing recommendations for amendments to *The Watershed Authority Act* and *The Water Power Act*.

What are we measuring?	Progress to date
Proportion of surface water industrial projects with detailed assessments completed that comply with licensing and approval requirements	51% *[March 2006]*

The Watershed Authority allocates water to industrial projects and imposes conditions such as reporting of water use, limits when water can be withdrawn, term of licence and no transfer of licence without prior approval of the Watershed Authority. The Watershed Authority conducts detailed assessments of surface water industrial projects to determine actual water use and to determine if water use conditions imposed by an approval to operate issued by the Watershed Authority are appropriate or should be modified. This measure has been adjusted to consider the proportion of industrial projects, confirmed by detailed assessment (to March 31, 2006), which meet licencing and operating requirements rather than solely the number of detailed assessments conducted. This change has been made to provide a more meaningful determination of progress.

The assessments will determine the need for the Watershed Authority to modify existing licences and whether or not to consider adding new conditions to future licences. The Watershed Authority has a high level of influence over this measure.

What are we measuring?	Progress to date
Number of 1:250,000 map sheets for which GIS-based groundwater maps have been completed	2 *[March 2006]* 0 *[March 2005]*

The Watershed Authority, in partnership with the Saskatchewan Research Council, has previously completed a series of maps which illustrate the location, extent, and depth of potential aquifers throughout southern Saskatchewan. In 2005, the Watershed Authority initiated a program to further refine knowledge of groundwater with a new series of digital maps and to make these maps available on the Watershed Authority website. Groundwater maps are very important to help communities, industry and other water users understand the potential and best areas to obtain a sustainable supply of groundwater. This indicator tracks progress in completing this mapping. Maps are based on National Topographic Survey (NTS) map sheets at a scale of 1:250,000.

What are we measuring?	Progress to date
Total municipal per capita water consumption	427 litres per person per day *[2005]* 433 litres per person per day *[2004]*
Winter municipal per capita water consumption (November 1 to March 31)	384 litres per person per day *[2005]* 396 litres per person per day *[2004]*

These measures examine municipal water use including in-the-home, business, fire fighting, and municipal irrigation as well as system leakage. Two measures are used because annual consumption is affected by summer irrigation demands for lawn and garden watering which vary between wet and dry years causing the results to vary between years. Winter water demand is more stable and so will more clearly show trends in interior water use. However, because the goal of water conservation is to become more efficient in all water uses, total water use is also a good measure of water conservation in the urban setting.

The Watershed Authority added the winter municipal per capita water consumption measure in 2007-08 to provide a measure which will more clearly show trends over the short-term without the variation caused by summer irrigation demands.

This measure is computed by summing the annual water consumption for each community from the Saskatchewan Community Water Use Records maintained by the Watershed Authority, and dividing by the total population. The winter measure uses the same methodology, except it sums total water consumption for November 1 to March 31 only.

The Watershed Authority does not have direct control over this measure, but through water conservation programs does influence the measure.

OBJECTIVE 3 – Flood damage is minimized

Floods can impose significant costs in property damage and loss of production. The Watershed Authority works to minimize flood damage through the use of water management infrastructure and by predicting areas at risk of flooding to guide other departments, municipalities and business in reducing flood risk. Dams, dykes and ditches can reduce the size and duration of floods while proper management of development in flood plains avoids the large costs in property damage which could otherwise occur in a major flood.

The Watershed Authority has replaced one performance measure for this objective, which should help to provide a broader indicator of progress. And, while finding good measures is challenging (flooding is a rare event, and therefore fluctuates significantly from year to year), the new measure will indicate how effectively communities are regulating development in flood plains, a very important predictor of flood damage, and will be useful in helping to direct resources.

Key Actions for 2007-08

- Provide technical and financial support to Conservation and Development Area Authorities and Watershed Associations to maintain/rehabilitate locally owned existing water control infrastructure.
- Consult with the public and test emergency preparedness plans for Rafferty and Alameda Dams.
- Complete the flood plain mapping for the RM of Corman Park and the Pike Lake area.
- Initiate discussions with the major Saskatchewan cities around partnership agreements for development and maintenance of Flood Damage Reduction (FDR) Program mapping.
- Initiate audits of flood plain development in communities in the Flood Damage Reduction Program.

What are we measuring?	Progress to date
Number of flood plain development audits for communities involved in the Flood Damage Reduction Program	0 *[March 2006]*

This measure quantifies the activities of the Watershed Authority working with the communities who have participated in the FDR Program. The Watershed Authority will look at the level of development and new development in the flood plains designated under the FDR Program. Flood damages are largely, though not exclusively, associated with urban development in flood prone areas; therefore, one of the most effective ways of minimizing flood damage costs is by preventing inappropriate development in these areas. The audits will indicate how effectively communities are regulating development in flood plains and will be useful in directing where resources should be used in future provincial programs.

What are we measuring?	Progress to date
Per cent of flood susceptibility studies on new subdivisions forwarded to Government Relations within 30 days	70% *[March 2005]* 34% *[March 2004]*

Under *The Planning and Development Act, 1983*, the Watershed Authority is requested to review proposed subdivisions to determine flood risk to the property. The assessment and comments are forwarded to Government Relations for their evaluation of the proposed subdivisions. The proportion of flood susceptibility studies of proposed subdivisions forwarded by Government Relations for review completed within 30 days is being measured.

The determination of flood risk and susceptibility is key to minimization of flood damages. If the proposed subdivision of land is susceptible to flooding, new development in the flood plain can be prevented or restricted to minimize flood damages. The Watershed Authority has a significant level of influence over the measurement results.

GOAL 2

Healthy watersheds and aquifers

OBJECTIVE 1 – *Source waters and watersheds are protected*

The people of Saskatchewan depend on both surface and groundwater sources for their basic human needs and to generate economic activity. Proper siting of a water supply and aggressively protecting it from potential contaminants are keys to providing a safe water supply.

It is recognized that a multiple barrier approach protecting water from the source to the tap is the most effective way of protecting drinking water quality. Controls to provide multi-barrier protection to source waters are being developed and put into place.

Key Actions for 2007-08

Lead implementation of watershed protection plans by implementing key actions assigned to the Watershed Authority, facilitating local leadership in implementing source water protection plans through technical and financial support, and completing the first annual progress reports on watershed plan implementation.

- Work with small communities that have high risk source water to develop source water protection plans.
- Expand source water protection planning to two new watersheds.
- Obtain approval for the draft Wetland and Drainage policy and begin implementation through working with partners and begin drafting legislative amendments.
- Work with a minimum of 500 agricultural producers through extension activities to assist in the development of Beneficial Management Practices designed to protect source water and ecological function.
- Provide support to the First Nations Agricultural Council of Saskatchewan Inc. in the delivery of source water protections plans developed by individual First Nations.

- Undertake an assessment to determine the contribution of non-point agricultural sources to water quality and habitat degradation that can be used in the watershed planning activities and to measure the efficacy of Best Management Practices.
- Develop a graduated coarse-to-fine-filter protocol to assess the magnitude of environmental risk due to alteration of natural instream flows, and apply the methodology on a pilot basis to a sample of Saskatchewan systems.

What are we measuring?	**Progress to date**
Number of completed watershed and aquifer plans	2 plans completed 5 plans under development *[March 2006]* 0 plans completed 7 plans under development *[March 2005]* 0 plans completed 7 plans under development *[March 2004]*

Watershed and aquifer plans guide activities for source water protection. Watershed and aquifer planning allows Saskatchewan residents the opportunity to commit to and participate in changes that will ensure adequate and quality drinking water. Completed plans set priorities and identify emerging issues.

There are 29 watersheds in Saskatchewan and a number of major aquifers. The Watershed Authority leads the planning process, but Watershed Implementation Committee representatives develop and ultimately implement the plans. The Watershed Authority thus shares influence on this measure with the people in the watershed.

What are we measuring?

Proportion of watershed and aquifer plan key actions underway or completed by the Watershed Implementation Committees

Progress to date

0 key actions underway
0 key actions completed
[March 2006]

[Note: Implementation of plans had not yet started at March 31, 2006, so the baseline is 0 for both measures.]

All of the completed Source Water Protection Plans include a broad set of key actions for issues such as legislation, stewardship, water quality monitoring and water management actions. While the Watershed Authority has been identified as lead agency for many of these actions, the Watershed Authority also has an overall lead role in helping to ensure the implementation of all of the key actions. The Watershed Authority thus shares influence on this measure with the communities in the watershed and other agencies.

Some key actions involve limited actions and will be completed, while others require ongoing activities. This performance measure therefore uses two indicators of progress, those actions completed and those underway. The underway category will include both key actions which are ongoing, and those that have a clear completion point which is not yet achieved.

What are we measuring?

Water Quality Index ratings for lakes

Progress to date

Waterbody	Year	Water Quality Index	
Jackfish Lake	2004	56.4	Marginal
Murray Lake	2004	67.6	Fair
Good Spirit Lake	2004	83.9	Good

[March 2004 most recent data]

What are we measuring?

Water Quality Index ratings for rivers

Progress to date

Excellent
Churchill River

Good to Excellent
Assiniboine River, Beaver River, North Saskatchewan River, South Saskatchewan River, Saskatchewan River

Fair to Good
Qu'Appelle River, Souris River

Poor to Fair
Moose Jaw River

[2005 latest data available]

[Data Source: Saskatchewan Watershed Authority and Saskatchewan Environment surface water quality databases]

There are two locations along the Qu'Appelle River where the quality would be considered marginal for protection of aquatic life. The river ranges from fair to excellent for livestock watering and irrigation purposes.

Major water quality concerns along the Moose Jaw River stem from nutrients and suspended solids from man-made sources (wastewater discharge and agricultural activities) and natural variation (flow, run-off and snow melt).

The Water Quality Index is an overall measure of the quality of water for specific uses such as the protection of aquatic life, livestock watering, recreation, etc. The levels of chemicals and organisms in the samples are compared with the Water Quality Index levels for safety and health of the people. The Index is a composite measure of different chemicals and organisms in the water and whether the water quality is safe for particular uses. It is a good measure of the quality of surface or groundwater.

The Government has limited direct control over the results of this broad measure of water quality. The Province regulates point source pollution, however, many human and natural factors can influence water quality.

OBJECTIVE 2 – Public is aware of the importance of healthy watersheds

Many actions to protect water can only be accomplished at the initiative of or in partnership with the citizens of the Province. Success of the Watershed Authority's programs is therefore dependent on public understanding of the importance and benefits of source water protection.

The current performance measure only examines school-based educational programs which, while important, are only one aspect of creating public awareness.

Key Actions for 2007-08

- Use marketing and communications to support the watershed and aquifer planning processes and plan implementation.
- As part of the Water Conservation Plan, educate the public about the underlying value of water and importance of water conservation, and promote specific techniques which can conserve water.
- Offer workshops on the environmental education programs Project WET and Project WILD to education students at all training institutions, as well as to teachers in the Kindergarten to Grade 12 system.

What are we measuring?	**Progress to date**
Number of teachers attending Project WET and Project WILD workshops annually	269 Project WET 418 Project WILD *[June 2005; latest data available]*

The Watershed Authority uses two school-based programs, Project WET and Project WILD, as its major programs to educate school children about water, aquatic ecosystems, and peoples' relationship to wildlife and the environment. Both are made available to teachers through workshops, which train teachers in the use of material and at which material is provided. The performance measure is the number of teachers attending full day certification and part day refresher Project WILD and Project WET workshops. This statistic is easily tracked and relates directly to actual use of Watershed Authority education materials in the classroom. The Watershed Authority has moderate influence over the measure through its work arranging workshops and marketing the program, although participation is up to individual teachers and schools.

For More Information

This Plan sets out what the Watershed Authority hopes to accomplish in the coming year. If you have questions or comments, or would like additional copies of the Plan, please call the Watershed Authority's head office in Moose Jaw at 306-694-3900, or the Provincial Water Inquiry Line toll-free at 1-866-SASK-H2O (1-866-727-5420), or e-mail the Watershed Authority at comm@swa.ca. Written comments should be addressed to:

Saskatchewan Watershed Authority
111 Fairford Street East
Moose Jaw, Saskatchewan
S6H 7X9

You are also invited to visit the Watershed Authority's website at www.swa.ca. At this site, you will find:

- this Performance Plan;
- news releases;
- information on Watershed and Aquifer planning;
- information on water conservation planning;
- information on educational events;
- information on water conservation;
- flood advisories;
- provincial stream flow forecasts;
- information on groundwater;
- information on the dams and reservoirs operated by the Watershed Authority; and
- Watershed Authority publications.